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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,027	01/17/2002	Henry F. Taylor		1239

7590 07/30/2003

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EXAMINER

PAK, SUNG H

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/052,027

Applicant(s)

TAYLOR, HENRY F.

Examiner

Sung H. Pak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

According to the record, the corrected or substitute drawings were received on 4/11/2002 (paper #3). However, the actual drawing sheets are missing from the application file. Please re-submit the copies of the substitute drawings filed on 4/11/2002.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 9-10, 13-16, 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ono et al (US 6,097,525).

Ono et al reference discloses an optical device with all the limitations set forth in the claims, including: a continuous wave laser, such as a semiconductor laser (column 7 lines 1-2); a phase modulator connected in series with the cw laser, wherein the phase modulator is configured to cause the phase of the light from the cw laser to vary in substantially a quadratic manner over a selected time range (Fig. 13, column 7 lines 8-10); an intensity modulator connected in series with the phase modulator (Fig. 13),

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wherein the intensity modulator is conformed to transmit or block the light from the phase modulator in accordance with an intensity modulation scheme for transmitting binary data (column 7 line 6-8); wherein the intensity modulator is a Mach-Zehnder modulator (column 7 line 2); wherein the phase modulator is a straight waveguide (column 7 lines 53-56).

Ono et al also discloses the cw laser being connected to the intensity modulator in series, and then the phase modulator is connected to the intensity modulator (Fig. 8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8, 11-12, 17-19, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al (US 6,097,525).

Ono et al reference discloses an optical device with all the limitations set forth in the claims as discussed above, except it does not teach the use of plurality of cw lasers each connected to plurality of phase and intensity modulators, and an optical coupler and optical amplifier connected to the modulators as claimed in claims 6-8, 11-12, 17-19, 21-22.

However, using plurality of cw lasers and optical couplers to combine the laser signals of plurality of wavelengths is well known and commonly implemented in the

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WDM art. Such an arrangement is advantageous over the prior art, because it allows for high bandwidth optical transmission containing multiple optical signals over one transmission line. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Ono et al device to have plurality of cw lasers and an optical coupler to combine light signals from the cw lasers. It would be desirable to have high bandwidth optical communications device.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujiwara et al (US 2002/0015212 A1) disclose plurality of cw lasers, phase modulators, and intensity modulators with optical couplers and optical amplifiers for use in multi-wavelength optical communications. Ibe et al (US 2003/0058519 A1) disclose cw lasers coupled with phase modulators and intensity modulators in series. Both of these references have effective filing dates that are later than the effective filing date of the instant application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (703) 308-4880. The examiner can normally be reached on Monday - Thursday : 6:30am-5:00pm.

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The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Sung H. Pak
Examiner
Art Unit 2874

sp
July 16, 2003



HEMANG SANGHAVI
PRIMARY EXAMINER